CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-48 (Cancelled)

49. (Currently amended) A method for diagnosing colon, stomach or prostate cancer comprising: a) determining the expression of a gene comprising ~~or encoding~~ a nucleic acid sequence selected from the group consisting of SEQ ID NO:150, SEQ ID NO:152, and SEQ ID NO:154 in a ~~first~~ colon, stomach or prostate tissue type of a first individual; and b) comparing said expression of said gene from a second different ~~normal~~ tissue type from said first individual or a second individual unaffected ~~individual~~ with colon, stomach or prostate cancer; wherein a difference in said expression indicates that the first individual has colon, stomach or prostate cancer.

Claims 50-55 (Cancelled)

56. (Currently amended) A method for diagnosing colon, stomach or prostate cancer comprising comparing a level of proteasome component C7-I mRNA in a patient sample comprising colon, stomach or prostate tissue to the level of the proteasome component C7-I mRNA in a healthy individual ~~normal control~~; wherein a difference of at least 50% between the level in the patient sample relative to the level in the healthy individual ~~normal control~~ indicates that the patient has or is predisposed to colon, stomach or prostate cancer.

57. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRNA comprises a nucleotide sequence at least 95% identical to SEQ ID NO:152.

58. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRNA comprises a nucleotide sequence at least 98% identical to SEQ ID NO:152.

59. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRNA comprises the nucleotide sequence of SEQ ID NO:152.

60. (Previously presented) The method of claim 56 wherein a difference of at least 100% between the level of the proteasome component C7-I mRNA in the patient sample relative to the healthy individual ~~normal control~~ indicates that the patient has or is predisposed to colon, stomach or prostate cancer.

61. (Currently amended) A method for diagnosing colon, stomach or prostate cancer comprising detecting differential expression of proteasome component C7-I in a patient sample compared to a control, wherein differential expression of proteasome component C7-I indicates that the patient has colon, stomach or prostate cancer.

62. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7 -I expression product.

63. (Previously presented) The method of claim 62 wherein the expression product is a protein or mRNA.

Claims 64-66 (Cancelled)

67. (Currently amended) The method of claim 61 ~~66~~ wherein the control comprises normal colon, stomach or prostate tissue.

68. (Currently amended) The method of claim 62 ~~66~~ wherein the level of the expression product in the patient sample differs by at least 200% relative to the control.

69. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product said expression product comprising a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of SEQ ID NO:150, SEQ ID NO:152, and SEO ID NO:154.

70. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product comprising a nucleotide sequence at least 98% identical to SEQ ID NO: 152.

71. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product comprising the nucleotide sequence of SEQ ID NO: 152.

72. (Previously presented) A method of diagnosing colon, stomach or prostate cancer in a patient comprising:

(a) contacting a polynucleotide that hybridizes under highly stringent conditions to the complement of a nucleotide sequence selected from the group consisting of SEQ ID NO:150, SEQ ID NO:152 and SEQ ID NO:0154 with nucleic acids of a patient colon, stomach or prostate sample under binding conditions suitable to form a duplex, wherein hybridization is performed at 50°C to 60°C in 5 X SSC (9 mM saline/0.9 mM sodium citrate); and

(b) comparing the amount of the duplex formed to the amount of duplex formed when the polynucleotide is contacted with nucleic acids of a non-cancerous colon, stomach or prostate control,

wherein a difference of at least 50% in the amount of duplex formed upon contacting said polynucleotide with said nucleic acids of the patient sample compared to the amount of duplex formed upon contacting said polynucleotide with the nucleic acids of the non-cancerous control indicates that the patient has colon, stomach or prostate cancer.

Claims 73-74 (Cancelled)

75. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRNA comprises a nucleotide sequence at least 95% identical to SEQ ID NO:150.

76. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRA comprises a nucleotide sequence at least 98% identical to SEQ ID NO: 150.

77. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRA comprises SEQ ID NO:150.

78. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product at least 98% identical to SEQ ID NO:150.

79. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product comprising SEQ ID NO:150.

80. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRA comprises a nucleotide sequence at least 95% identical to SEQ ID NO:154.

81. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRA comprises a nucleotide sequence at least 98% identical to SEQ ID NO:154.

82. (Previously presented) The method of claim 56 wherein the proteasome component C7-I mRA comprises SEQ ID NO: 154.

83. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product at least 98% identical to SEQ ID NO:154.

84. (Previously presented) The method of claim 61 wherein differential expression is detected by measuring the level of a proteasome component C7-I expression product comprising SEQ ID NO:154.

85. (Previously presented) The method of anyone of claims 57 or 69 wherein the expression product encodes a threonine endopeptidase.

86. (Previously presented) The method of anyone of claims 49, 56, 61 or 72 wherein the cancer is colon cancer.